



IMPROVED TRANSFER MOLDING OF INTEGRATED CIRCUIT PACKAGES

ABSTRACT

5 A method, mold and apparatus for encapsulating and underfilling an integrated
circuit chip assembly. The mold has a first portion and a second portion with the first
portion having first and second cavities and at least one channel interconnecting said first
and second cavities. The first cavity is adapted to enclose said integrated circuit chip on
said substrate. A clamping force is applied to the first and second portions of the mold to
10 clamp the substrate between them with the integrated circuit chip located in the first
cavity. Vents exhaust air from the first cavity. Encapsulant is injected into the first
cavity of the first portion at a location in the first portion remote from the point of
connection of the channel such that encapsulant flows around and underneath the
integrated circuit chip and through the channel into the second cavity to thereby underfill
15 and encapsulate the integrated circuit assembly.